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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,952	05/18/1999	HIDEKI MURAYAMA	501.34424CX2	1937

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER

NGUYEN, HAI V

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 09/04/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/311,952

Applicant(s).

MURAYAMA ET AL.

Examiner

Hai V. Nguyen

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 88-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 88-104 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 2142

DETAILED ACTION

1. This Office Action is in response to the communication received on 10 July 2003.
2. Claim 104 is new claim.
3. Claims 88-104 are presented for examination.

Response to Arguments

4. Applicant's arguments filed on 10 July 2003 have been fully considered but they are not deemed fully persuasive. Applicant's arguments are deemed moot in view of the following new ground(s) of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., wherein said disk request processing section processes said disk request to determine whether said disk request requests access to a shared disk connected to said computer or requests access to a shared disk connected to another computer and sends said disk request to the shared disk connected to said computer if said disk request requests access to the shared disk connected to said computer, and sends said disk request to another computer to access a shared disk connected to said another computer if said request requests access to the shared disk connected to said another computer) to the claims which significantly affected the scope thereof.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 88-99, 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crawford** patent no. (**US 5,771,354**) in view of **Attanasio** et al. patent no. (**US 5,668,943**).

7. As to claim 88, Crawford, Internet On-line Backup Remote Storage For Customers Using IDs And Passwords Which Were Interactively Established When Signing Up For Backup Services, teaches the invention substantially as claimed, including in a computer system having a plurality of computers (Fig. 5, items 104, 160, 50a, 50b) connected to each other and a plurality of shared disks (Fig. 5, virtual disks, items 64BD-64BF; 164A-164C; 136I-136K; 136(1)-136(3); 136(4)-136(6)), each of said plurality of shared disks being coupled to one of said plurality of computers (Fig. 5, item 64BD to computer 160; item 164A to the customer computer 50b), each of said plurality of computers comprising:

a processor (Fig. 3, customer processor, item 52) for issuing a disk request to said plurality of shared disks (Fig. 5, items 116a, 116b; 136I-136K) for requesting access to one of said shared disks (one of virtual disks D:,E:, F:, I:, J:, K:); and

However, Crawford does not explicitly disclose a disk request processing section for processing said disk request issued to said plurality of shared disks, wherein said

Art Unit: 2142

disk request processing section processes said disk request to determine whether said disk request requests access to a shared disk connected to said computer or requests access to a shared disk connected to another computer and sends said disk request to the shared disk connected to said computer if said disk request requests access to the shared disk connected to said computer, and sends said disk request to another computer to access a shared disk connected to said another computer if said request requests access to the shared disk connected to said another computer. Thus, the artisan would have been motivated to look to the related internetworking art for potential methods and apparatus for implementing for processing said disk request issued to said plurality of shared disks, wherein said disk request processing section processes said disk request to determine whether said disk request requests access to a shared disk connected to said computer or requests access to a shared disk connected to another computer and sends said disk request to the shared disk connected to said computer if said disk request requests access to the shared disk connected to said computer, and sends said disk request to another computer to access a shared disk connected to said another computer if said request requests access to the shared disk connected to said another computer.

In the same field of endeavor, Attanasio discloses (e.g. accessing shared disks on computer network), applications running on any node can issue I/O requests for any disk, as if all disks were attached locally. The logic for handling a request at the node of origin is shown in FIG. 3. When the request is issued (block 700), the aforementioned map, 250-K-B, is checked to determine which has the primary tail (block 710). If the

Art Unit: 2142

node of origin is also the server node (i.e., holds the primary tail), the request is serviced locally (block 715). If the server node is different from the node of origin, a request descriptor is sent to the server node (block 720). If the request is a write request (determined in block 730), the data to be written is also sent to the server (block 740) (Attanasio, col. 3, line 59 - col. 4, line 8).

Accordingly, it would have been obvious to one of ordinary skill in the internetworking art at the time the invention was made to have incorporated Crawford's teachings of accessing virtual shared disks in compute network (see Crawford, Abstract, Figs. 5; col. 22 line 51 - col. 23, line 67) with the teachings of Attanasio, for the purpose of enabling high availability and achieving load balancing between the remaining tails (Attanasio, col. 2, lines 1-3; col. 4, lines 40-52).

8. As to claim 89, Crawford-Attanasio discloses wherein said disk request processing section further comprises:

a memory (Crawford, Fig. 3, item 66; Attanasio, Fig. 1, item 200-1) for storing structural definition information which describes a structure of said computer system (Crawford, Figs. 16A-16C); and

a disk request judging section for judging which shared disk is requested by said disk request according to said structural definition information (Crawford, Fig. 7, item 314).

9. As to claim 90, Crawford-Attanasio discloses wherein said disk request processing section further comprises: a disk request acceptance section for checking whether the sender of said disk request has access right to a shared disk to which

Art Unit: 2142

access is requested according to said structure definition information, wherein said structure definition information includes a password to allow access to said disk to which access is requested (Crawford, Fig. 13, item 520; Fig. 16A, item 602).

10. As to claim 91, Crawford-Attanasio discloses wherein said structural definition information includes information indicating a correspondence between each of said plurality of shared disks and a plurality of identifiers (Crawford, Fig. 5, item 64BD in computer 160 correspondent to item 164A in computer 50b; Attanasio, Fig. 7, item 250-K-B).

11. As to claim 92, Crawford-Attanasio discloses wherein said disk request processing section comprises:

a remote processing disk request section for issuing a remote disk request to said another computer to access said shared disk connected to said another computer (Crawford, Fig. 5, 6E, remote disk access program; col. 18, line 1 – col. 20, line 65).

12. Claims 93-94, 98-99 have similar limitations as claims 88-89, 91-92; therefore, they are rejected under the same rationale.

13. As to claim 96, Crawford-Attanasio discloses wherein said disk request processing section comprises:

a memory (Crawford, Fig. 3, item 66; Attanasio, Fig. 1, item 200-1) for storing structural definition information which describes a structure of said computer system including connections between said computers and said shared disks (Crawford, Figs. 16A-16C; Attanasio, Fig. 7, items 250-K-B; col. 4, lines 15-21); and

Art Unit: 2142

a disk request judging section for judging whether a disk request requests access to a shared disk connected to said computer or requests access to a shared disk connected to another computer according to said structural definition information (Attanasio, Fig. 3; col. 3, line 59 - col. 4, line 8).

14. Claims 95, 97 have similar limitations as claim 90; therefore, they are rejected under the same rationale.

15. As to claim 104, Crawford-Attanasio discloses wherein said disk request processing section comprises:

a memory (Crawford, Fig. 3, item 66; Attanasio, Fig. 1, item 200-1) for storing structural definition information which describes a structure of said computer system including connections between said computers and said shared disks (Crawford, Figs. 16A-16C; col. 39; Attanasio, Fig. 7, items 250-K-B; col. 4, lines 15-21);

a request controller for receiving a processing request from the processor for a disk which one of said shared disks (Attanasio, Fig. 7, item 250-K-A, proxy logic, item 250-K-C); and

a disk request judging section for judging whether a disk request requests access to a shared disk connected to said computer or requests access to a shared disk connected to another computer according to said structural definition information (Attanasio, Fig. 3; col. 3, line 59 - col. 4, line 8).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 100-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford-Attanasio as applied to claims 88-99, 104 above, and further in view of the well-known feature of a computer program product.

18. As to claims 100, Crawford-Attanasio discloses a computer program (software program) executed by computer for controlling access to the plurality of shared disks to be accessed as in the system of claim 1 above.

The Examiner takes **Official Notice (see MPEP 2144.03)** that it is well known in the networking art to utilize a computer-readable memory containing computer readable instructions for the storing and execution of the method and system in order to perform the functional procedures for controlling access to the shared disks connected to the computers (i.e., floppy disks, CD-ROM, hard disk, etc.).

Therefore, it would have been obvious to one of ordinary skill in the data processing art at the time the invention was made to have included the use of a computer-readable memory containing computer readable instructions to store and execute the procedures of controlling access to the shared disks connected to the computers because use of storage medium for programs used in general purpose computer to execute special purpose functions was routine in the art.

Art Unit: 2142

19. Claims 101-103 are substantially the same as claims 89, 91-92 and are thus rejected for the reason similar to those in rejection claims 89, 91-92.

Prior Art Of Record

20. The prior art made of record and relied upon is considered pertinent to applicant's disclosure.

Matena (US 5,996,075) is related prior art disclosing implementation of accessing to shared disks in computer network.

Art Unit: 2142

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai V. Nguyen whose telephone number is 703-306-0276. The examiner can normally be reached on 7:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell can be reached on 703-305-9703. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800/4700.

Art Unit: 2142

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20131

or faxed to:

(703) 746-7239, (for **formal communications**; please mark
"EXPEDITE PROCEDURE").

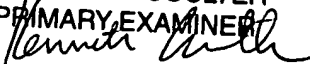
or:

(703) 746-7240 (for **informal or draft communications**, please
label "PROPOSED " or "DRAFT").

Or:

(703) 746-7238 (for After Final communications).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).

KENNETH R. COULTER
PRIMARY EXAMINER


Hai V. Nguyen
Examiner
AU# 2142
HN
